

JPRS 74711

4 December 1979

# **USSR Report**

**AGRICULTURE**

**No. 1210**

**FBIS**

**FOREIGN BROADCAST INFORMATION SERVICE**

#### NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

#### PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service (NTIS), Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semimonthly by the NTIS, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Indexes to this report (by keyword, author, personal names, title and series) are available through Bell & Howell, Old Mansfield Road, Wooster, Ohio, 44691.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

Soviet books and journal articles displaying a copyright notice are reproduced and sold by NTIS with permission of the copyright agency of the Soviet Union. Permission for further reproduction must be obtained from copyright owner.

<b>REPORT DOCUMENTATION PAGE</b>		1. REPORT NO. JPRS 74711	2.	3. Recipient's Acccession No
4. Title and Subtitle  USSR REPORT: AGRICULTURE, No. 1210		5. Report Date  4 December 1979		6.
7. Author(s)		8. Performing Organization Rept. No		
9. Performing Organization Name and Address  Joint Publications Research Service 1000 North Glebe Road Arlington, Virginia 22201		10. Project/Task/Work Unit No		11. Contract(C) or Grant(G) No.  (C)  (G)
12. Sponsoring Organization Name and Address  As above		13. Type of Report & Period Covered  14.		
15. Supplementary Notes				
16. Abstract (Limit: 200 words)  This serial report contains information on trends and policy at the national and republic levels, plans and plan fulfillment, production statistics, technological achievements and shortcomings, and agricultural investments, administration, and management. Information at lower levels is included when it is indicative of trends or innovations.				
17. Document Analysis a. Descriptors  USSR Agriculture				
b. Identifiers/Open-Ended Terms				
c. COSATI Field/Group 2D, 2B				
18. Availability Statement Unlimited Availability Sold by NTIS Springfield, Virginia 22161			19. Security Class (This Report)  UNCLASSIFIED	21. No. of Pages 44
			20. Security Class (This Page)  UNCLASSIFIED	22. Price

4 December 1979

## USSR REPORT

## AGRICULTURE

No. 1210

## CONTENTS

## PAGE

Development of Non-Chernozem Zone of RSFSR (Aleksandr Vasil'yevich Aleksankin; EKONOMIKA SEL'SKOGO KHOZYAYSTVA, Sep 79) .....	1
Leonid Levitin Comments on Livestock Complexes (Leonid Levitin; FREUNDSCHAFT, 5 Oct 79) .....	14
Subsidiary Farms at Enterprises--Importance Emphasized (G. Shmelev; TRUD, 3 Oct 79) .....	18
Lipetskaya Oblast Criticized for Shortcomings in Agriculture (K. Pankova, I. Titov; PRAVDA, 19 Sep 79) .....	22
Catch Crop Situation Improved in Moldavia (I. Chelak; SOVETSKAYA MOLDAVIYA, 25 Jul 79) .....	27
Private Subsidiary Farms for Increasing the Food Supply (G. Usmanov; SOVETSKAYA ROSSIYA, 23 Oct 79) .....	29
Adequate Moisture Reserves in Latvian Top Soil (L. Borisovskaya; SOVETSKAYA LATVIYA, 16 Oct 79) .....	33
Preparations for Combating Carabid Beetles in Moldavia (SOVETSKAYA MOLDAVIYA, 28 Sep 79) .....	34
Fighting the Soybean Moth in Amurskaya Oblast (N. I. Serebrennikova; ZERNOVOYE KHOZYAYSTVO, Oct 79) .....	35
Sunflower Seed Harvesting (A. G. Denisenko; PRAVDA UKRAINY, 4 Oct 79) .....	38

CONTENTS (Continued)

Page

**Briefs**

Sunflower Production Increased	41
Sunflower Harvest	41
Yampol' Sunflower Production Example	41
Anticyclone Over Moscow	42

## DEVELOPMENT OF NON-CHERNOZEM ZONE OF RSFSR

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 9, Sep 79 pp 7-16

[Article by Aleksandr Vasil'yevich Aleksankin, deputy chairman of the RSFSR Council of Ministers and first deputy minister of reclamation and water management: "The Non-Chernozem Zone as a Shock-Labor Front"]

[Text] ...The accelerated development of the Non-Chernozem Zone is becoming an extensive general state goal.

L. I. Brezhnev

In the years that have passed since the adoption by the Central Committee of the CPSU and the USSR Council of Ministers of the resolution, "On Measures for the Continued Agricultural Development of the Non-Chernozem Zone of the RSFSR," there has been an unheard of increase in work to strengthen the material-technical bases of kolkhozes, sovkhozes, water management organizations and organizations of Goskomsel'khoztekhnika [State Committee of the Agricultural Equipment Association], to reorganize the village and to improve the conditions of labor and everyday life for workers of the Non-Chernozem Zone. A considerable amount of attention is directed at raising the productivity of the soil, at land reclamation, at the building of large highly mechanized livestock complexes and farms for meat and milk production, poultry factories, hothouse combines, social-culture facilities and residential housing, and at the organization of specialized sovkhozes, etc.

We can evaluate the amount of work that has been done by the investments that have been made. In 1975-1978 1.7 billion rubles were invested only in the building of large livestock-raising complexes in the Non-Chernozem Zone of the RSFSR; 3.75 billion rubles of capital investments were made for the building of structures for non-production purposes, an increase of 1.6 times over the preceding 4-year period. There has been an investment of 2.9 billion rubles in reclamation building and in the development of reclaimed lands.

During the period that has passed since the resolution (from 1974 to 1978) the enterprises of the zone have been supplied with 265,600 tractors, 60,800 grain-harvesting combines, 160,300 trucks and 64.3 million tons of mineral fertilizers.

As a result of this, during the first 3 years of the current five-year plan the average annual grain production in the Non-Chernozem Zone of the RSFSR increased by 25 percent, meat production--by 9 percent; milk production--by 7 percent, and egg production--by 33 percent. In 1976-1978 labor productivity increased by 20 percent in agriculture.

There has been a further development of specialization and concentration of agricultural production on the basis of inter-enterprise cooperation. In 1978 there were 1,273 inter-enterprise organizations in the zone, of which 169 were involved in agricultural production output and in servicing agriculture. Here 385 complexes for milk production, 26 for beef production, 59 for pork production and 174 poultry factories have been created.

The growth of production and industry is increasing in pace. There has been a significant increase in the production of mineral fertilizers, liming and dolomite meal, drainage pipes, chemicals for plant protection, machines for livestock farming and feed preparation and many other products.

The ever-increasing volume of contractual work in the village and the urgent tasks of raising the technical level of rural building have encouraged a growth in the capacities of building and installation organizations in the Non-Chernozem Zone of the RSFSR. In recent years many contractor organizations of the union building ministries, the RSFSR Ministry of Rural Construction, Roskolkhozstroyob'yedineniye [Republic association of kolkhoz construction] and of other departments have significantly increased their capacities for the production of reinforced ferro-concrete and light concrete sections, porous aggregates, glued wooden structural members and for the capital repair of building and road vehicles.

For example, in 1978 the RSFSR Ministry of Agriculture put several large enterprises of the building industry into operation in Bryanskaya, Yaroslavskaya, Novgorodskaya and Arkhangel'skaya oblasts, in the Mariyskaya ASSR and in the city of Vologda. Right now capital investments are being directed into the building of enterprises producing complexly-manufactured lightweight structural elements of agricultural production buildings (SSK) and for large-panel residential construction (DSK and KPD).

With the goal of successfully fulfilling the tasks of kolkhoz building in the Non-Chernozem Zone of the RSFSR, the Giprosel'strcyindustiya Institute [All-union state planning and design institute for the planning and rural establishments of the construction industry] of the USSR Ministry of Agriculture has developed the basic directions and schemes for the development and distribution of production-technical bases of building organizations according to a single plan.

A great deal has also been done by the organizations of Roskolkhozstroy Association. During 1975-1978 the following rural building combines have been put into operation fully: Sovetskiy in Mariyskaya ASSR, Kamskiy in Udmurtskaya ASSR, combinats in the settlement of Lapsary and the city of Kanash of Chuvashskaya ASSR and combinats in Kirovskaya, Kostromskaya,

Yaroslavskaya, and Kaluzhskaya oblasts, etc. At the present time large SSK's such as the Arkhangel'skiy, Ivanovskiy, Kirovskiy (Stage 2) and those of the village of Ar'ya and the city of Sergach of Gor'kovskaya Oblast and others are under construction and should be completely operational during the Tenth Five-Year Plan.

A large volume of work is being produced by the USSR Ministry of Industrial Construction. Last year alone 23 million rubles were spent on construction in Glavnechernozemstroy [Main administration for hydraulic engineering construction in the Non-Chernozem Zone]. This is almost equal to the amount of work done during the 2 preceding years of the five-year plan. The USSR Ministry of Industrial Construction is building large associated enterprises of the building industry in Bryanskaya, Kaluzhskaya and Ryazanskaya oblasts.

The continued improvement in the effectiveness of agricultural production and in the social-economic conditions of village life will depend to a significant degree on the development of the network of highways. For the Non-Chernozem Zone of the RSFSR this problem is a very urgent one. During the years of the 10th Five-Year Plan it is necessary to build and put into operation 25,000 kilometers of highways, including 13,000 kilometers of public roads through the efforts of the road organizations of the USSR Ministry of Construction and Operation of Highways and 12,000 kilometers of intra-enterprise roads through the efforts of the organizations of Roskolkhozstroyob'yedineniye.

The fulfillment of such an intensive program will enable us to join 1,651 central areas of kolkhozes and sovkhozes with the rayon centers by means of paved roads, and 51 rayon centers with oblast centers and the capitals of autonomous republics. Over half of the five-year goals in the area of road building have already been fulfilled.

Within the complex program of the transformation of the Non-Chernozem Zone, land reclamation plays an important role. It is characteristic for the zone that there is a lack of organization when it comes to the reclamation of agricultural lands and that the land is shallow in contour. This eliminates the use of highly productive agricultural machinery, decreases the effectiveness of mechanization and makes the intensification of agriculture more difficult as a whole.

Following the passage of the resolution, the largest amount of attention was focused on the creation of the essential conditions for securing the rapidly-growing volume of reclamation operations and on raising the technical level of building of drainage and irrigation systems.

During 1975-1978 drainage and irrigation systems were put into operation on an area of 1,148,000 hectares, which is 20 percent more than in 1971-1974. In addition, cultivation operations were performed on 1,709,000 hectares that did not require drainage. In 1975-1978 there was a twofold rise in assimilation of capital investments as compared with the preceding 4 years, and there was 2.3 times more building and installation work completed.

At the present time land reclamation operations are being completed on a higher technical level and in complexes with primary cultivation of reclaimed lands and with agricultural building. During 1975-1978 there was a simultaneous liming of acid soils on 1.53 million hectares, an introduction of mineral fertilizers on 1.92 million hectares and an introduction of organic fertilizers on 1.13 million hectares of reclaimed lands.

The proportion of lands that have been drained by the progressive method of closed drainage increased 1.5-fold and in 1978 comprised 80 percent of the total. Highly productive irrigation technology is being utilized on irrigated lands. During the aforementioned period 1,600 Fregat and Volzhanka sprinklers have been installed to irrigate one-fourth of the total area of irrigated lands. Earlier, such technology was practically non-existent in the zone. Hydraulic-engineering structures are being built primarily from standard ferro-concrete parts. The highways have been lengthened for reclamation structures.

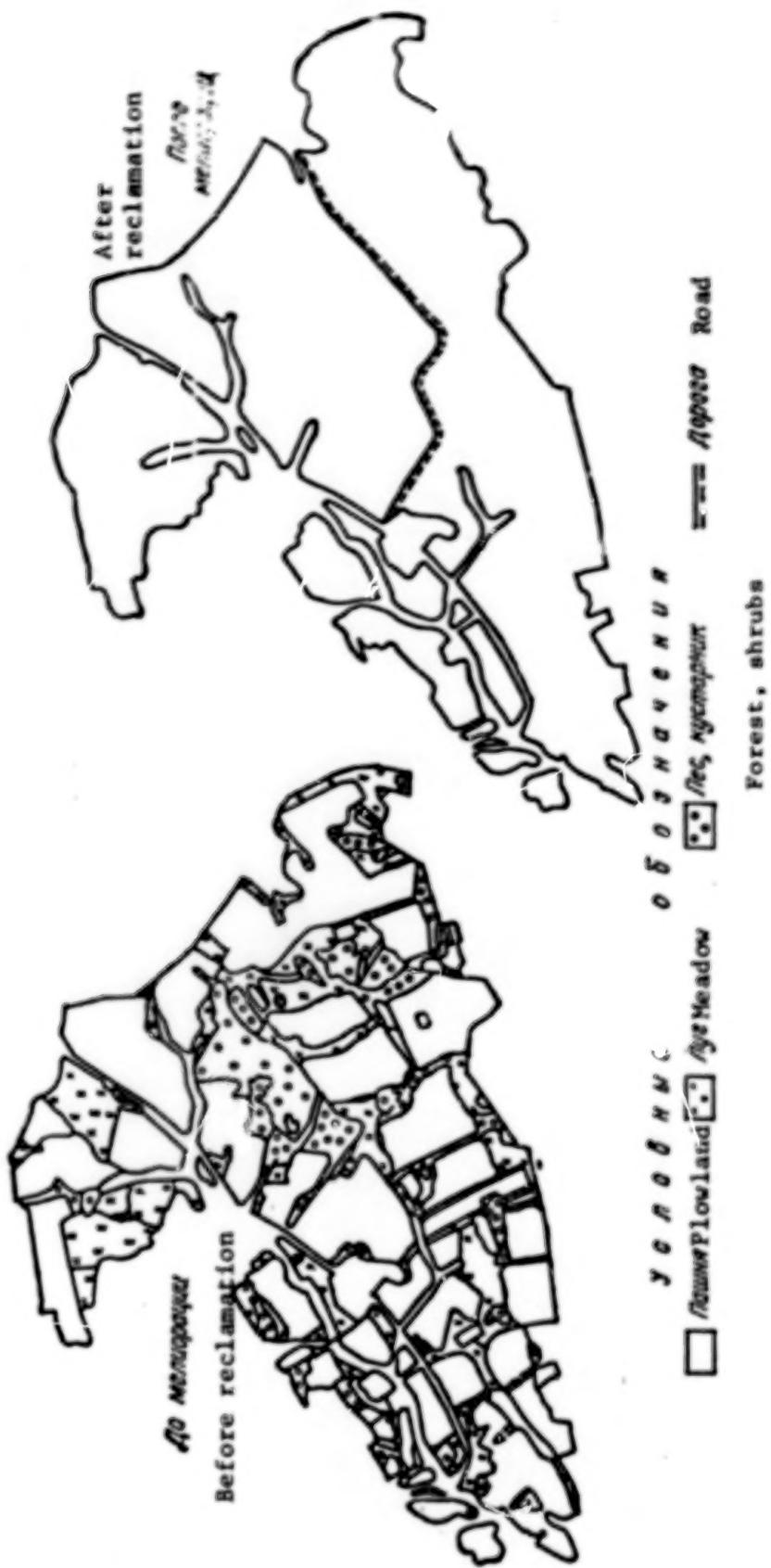
The data presented in the table attests to the improvement in the technical level of irrigation and drainage systems and their durability.

	<u>1974</u>	<u>1978</u>
The proportion of systems that were built and put into operation:		
drainage utilizing closed drainage (% of total area drained)	68	80
standard and uniform irrigation systems (% of total irrigated area)	62	95
Expenditure of ferro-concrete parts for building reclamation systems ( $m^3/ha$ )	0.75	1.25
Length of roads built around reclamation structures calculated on the basis of 100 hectares (km)	0.1	0.5
Capital-output ratio for 1 hectare of reclaimed land (rubles):		
drained	870	1,200
irrigated	770	1,450

In the zone a progressive technology for building closed drainage from plastic pipes using the non-trench method is being assimilated. Also, channels are secured with hydraulic grass sowing. Assembly-block and completely prefabricated pumping stations are utilized for irrigation systems. In 1979 68 such stations will be built.

With the reclamation of lands and the elimination of shallow contours large land areas of plowland and agricultural land are being formed according to a single plan. This is achieved through the drainage of overly-moist lands and the clearing of shrubs and small trees from dry lands. An example of this is the building of a reclamation structure in the Gudkovskiy Sovkhoz, Ponazyrevskiy Rayon, Kostromskaya Oblast, using a design that was developed in 1977 (see sketch on following page).

Sketch. Land reclamation in the Gudkovskiy Sovkhoz, Ponazyrevskiy Rayon,  
Kostromskaya Oblast.



In the sovkhoz it is planned to reclaim 541 hectares, including the drainage of 438 hectares using the closed drainage method. Prior to reclamation there were 256 contours on the land area. After the work is completed only 13 will remain. The average area of a contour will increase from 2 to 41 hectares. The area of plowland will increase here by 206 hectares as a result of the clearing of shrubs and small trees from fields, of developing leas and of plowing up neglected feed lands. The implementation of the plan in the Gudkovskiy Sovkhoz will enable it to increase the productivity of grains from 9.8 to 25 quintals and the gross grain yield from 154 to 681 tons, as well as to cultivate large yields of grasses for hay and green fodder.

In Lotoshinsky Rayon, Moscow Oblast, the building of the drainage system in the Dory Sovkhoz will be completed in 1979. The area being reclaimed here comprised 1,530 hectares, including 1,198 hectares of drained lands. Cultivation operations are being conducted on 303 hectares of dry lands. Prior to reclamation the agricultural lands were located on 262 contours. Only 600 hectares were plowed, the rest of the land was in hay or pastures or overgrown with shrubs, small trees and hummocky. The average size of the contour is 1 hectare. After reclamation 15 contours will remain. The average area of a contour will increase to 100 hectares. The area of plowland will increase by 152 hectares. A road network 33 kilometers long is being built around the structure, and 6 kilometers will be paved. It is planned to raise the productivity of agricultural crops by 1.8-2.0 times. Total expenditures for reclamation of this land mass will be 1,655,000 rubles, or 1,081 rubles per hectare. It will take 5 years to repay this investment.

There are many examples of a complex approach to land reclamation. However, the important thing is that the essence remains the same--to enlarge land areas by means of a complex of reclamation measures and of land recultivation. As a result of such an approach towards land reclamation there is a sharp increase in the effectiveness of agricultural production as well as in the use of reclaimed lands.

With the goal of creating zones of guaranteed production and of improving the supplies of vegetables and whole milk to the inhabitants of large cities and industrial centers of the autonomous republics and oblasts of the Non-Chernozem Zone of the RSFSR, the complex building of 36 new specialized sovkhozes on reclaimed lands is taking place for the first time during the 10th Five-Year Plan. Their operational start will enable us to produce commodity products in the following volumes per year: vegetables--415,000 tons, onions--98,000 tons, milk--115,000 tons and seeds for meadow-pasture grasses--6,300 tons. The land management of these large enterprises is organized basically into the reclamation of useless, excessively moist, shrub-covered and hillocky lands. Reclamation operations are planned for an area of 113,000 hectares. This includes 77,000 hectares that must be drained, of which 37,000 hectares will employ the system of two-way regulation. Irrigation will take place on 36,000 hectares. The building of the necessary structures for production and non-production purposes is proceeding in a complex with land reclamation. The total cost of building the sovkhozes will be 1.1 billion rubles, including 430 million rubles for reclamation building and 670 million rubles for

agricultural building. Of the 36 sovkhozes, four are being built in Yaroslavskaya Oblast alone in the basin of the Nero River. These sovkhozes--the Vasili'kovskiy, Kirgizstan, Porech'ye and Semibratov--will specialize in the production of commodity onions.

The extent of the complex operations that must be fulfilled by reclamation workers and builders for a single enterprise can be seen by the example of the Porech'ye Sovkhoz, which is located in the southern section of the Nero River valley. The total land-use area equals 7,400 hectares and 60 percent of this land is excessively moist or hillocky.

The high waters of Nero Lake and Sara River, which are slow to drop, practically exclude these lands from intensive agricultural use. The ground here is varied, including peat deposits with a thickness of 4-7 meters. Based on the natural conditions and economic goals of the Porech'ye Sovkhoz, it is planned to reclaim 4,500 hectares, including draining 1,095 hectares, irrigating 1,685 hectares and cultivating 1,106 hectares that do not require drainage. The closed drainage system will be used for the entire area. A land area of 2,780 hectares will be irrigated with a standard sprinkler network consisting of Fregat machines and DD-30 nozzles for onion crop rotations (2,195 hectares) and of DDN-70 equipment for 585 hectares. The irrigation network is stationary. With an average irrigation norm of 400 m<sup>3</sup>/ha the total volume of water consumption from Nero Lake will comprise 3.7 million m<sup>3</sup> per year. The water will be moved mechanically to the sprinklers. The stationary main pumping station of the partially-buried type expends 1.37 m<sup>3</sup>/second and 0.46 m<sup>3</sup>/second of water with a pressure of 110 meters.

It is planned to build 52 kilometers of roads to ship out agricultural products and to operate reclamation systems. A total of 27 kilometers will be paved and 25 kilometers will be graded. It is planned to build 57 kilometers of electrical lines with a substation in the settlement of Porech'ye to provide a supply of electricity.

The agricultural building of the Porech'ye Sovkhoz includes buildings for residential, cultural-everyday and production purposes.

The residential area consists of 34,000 square meters and is planned for 2,500 persons. Fifteen percent of the area will be used to build single-level houses with private plots, 45 percent of the area will be used to build 2-story block housing on two levels, and 40 percent will be used to build sectional 2- and 4-story buildings.

In the sovkhoz production building will cost 10.9 million rubles, including expenditures for a livestock-raising complex for 2,000 cows and for repair-mechanical and storage facilities. The total cost of building the Porech'ye Sovkhoz will be 35.4 million rubles.

The sovkhoz will produce 12,000 tons of onions annually, as well as other agricultural products. It is planned that clear income in the sovkhoz will equal 3,946,000 rubles. Capital expenditures will be reimbursed in 6 years.

In recent years there has been a certain amount of work done to concentrate the efforts of land reclamation workers on large land areas. A plan is being developed to assimilate the Meshcherskaya Lowlands and to include about 100,000 hectares of land into intensive agricultural rotation in the near future. It is planned to build structures in the lowlands of Mologi River, Kalininskyya Oblast, where the total area equals 15,000 hectares. A large reservoir is being built for the Tarasovskaya System in the Mordovskaya ASSR. Its first unit will irrigate 3,000 hectares, with a subsequent increase in the irrigated area to 10,000 hectares. In the Mariyskaya ASSR about 30,000 hectares will be irrigated after reservoirs are built for the Malaya Kokshaga and Bol'shaya Oshla rivers. The building of five extra-budgetary reclamation structures has been completed--the Suzdal'skiy Sovkhoz in Vladimirskaya Oblast, the Krasava Massive in Permskaya Oblast, the Loban' of Kirovskaya Oblast, the Pra of Ryazanskaya Oblast and the Solonitsa of Kostromskaya Oblast. The total area of reclaimed lands here consists of 23,200 hectares.

The new, large-scale approach to solving the future tasks of reclamation, water management construction and agricultural development in the large rayons of the Non-Chernozem Zone is evident in the complex utilization and conservation of water and land resources in the Meshcherskaya Lowlands.

The Meshcherskaya Lowlands, with an area of 30,000 square kilometers, are located in Vladimirskaya, Moscow and Ryazanskaya oblasts between the Oka and Klyas'ma rivers. Their population is 1,048,000 people, including 572,000 rural residents. Of the 900,000 hectares of agricultural lands 474,000 hectares are plowed. Current agricultural specialization involves meat and dairy farming with developing production of potatoes and grain. However, the level of agricultural production is lower here than in other rayons of these oblasts because of the significant excessive moisture of the lands, where practically every third hectare needs to be drained.

In the Meshcherskaya Lowlands about 90,000 hectares had been reclaimed as of early 1979.

The high technical level of reclamation building and the improvement in durability due to the use of closed drainage, drainage with mechanical water-lifting, polder systems, standard and uniform irrigation systems, systems of two-way regulation, stationary pumping stations operating automatically, irrigation technology encompassing large areas and the regulation of local currents will in the future enable us to increase the area of drained lands in the Meshcherskaya Lowlands to 332,000 hectares and of irrigated lands to 231,000 hectares. New systems will be built on 202,000 of these hectares.

Water reservoirs will serve as the main sources of water for irrigation. It is planned to build 119 reservoirs with a capacity of 320 million cubic meters. At the same time cultivation operations will proceed on 164,000 hectares of dry lands.

As a result of all the transformations, the proportion of reclaimed lands will be 71 percent of the total area of agricultural lands, in contrast to the

current 15 percent. In the given case reclamation is an organizational beginning. Through reclamation, large land masses will be developed, thus creating the conditions for production concentration and for the highly productive utilization of technology. This will enable us to curtail the schedule of field work and to introduce progressive technology and industrial methods into agricultural production more rapidly.

One of the basic riches of the Meshchera are the peat deposits, which occupy over 13 percent of its territory. The future development of zonal agriculture will depend upon the rational utilization of the remaining peat resources. It would be most effective to curtail the extraction of peat for fuel in the coming years, thus saving millions of tons of peat for agriculture.

Land reclamation and the assimilation of peat deposits in a complex with agricultural assimilation and other measures to intensify agriculture will enable us to significantly improve the level of agricultural production as a whole. The area of agricultural lands will increase by 177,000 hectares, including a 125,000 hectare increase for plowland.

The planned measures will enable us to bring the volume of gross agricultural production to 1,063 million rubles per year, an increase of 2.7 times. About 80 percent of agricultural production will come from reclaimed lands. The assimilation of the Meshcherskaya zone will enable us to produce an additional 328,000 tons of grain, 840,000 tons of potatoes, 214,000 tons of vegetables, 1,577,000 tons of feed (without concentrates), 958,000 tons of milk, and 32,000 tons of meat.

In the village areas it is planned to build large settlements, which will offer cultural and everyday services and amenities to residents equalling those of cities. No small amount of attention will be focused on electrical supplies, fishing-industry measures, road building, measures for natural conservation, recreation, etc.

In order to complete the program of land reclamation during the scheduled period on a high technical level, a powerful production base is being developed for water management organizations in the Non-Chernozem Zone of the RSFSR. Technical supplies are increasing, as are administrative and engineering-technical cadres.

In accordance with the resolution (1976) of the Central Committee of the CPSU and the USSR Council of Ministers, "On Urgent Measures for the Creation of Important Enterprises for the Production Base of Building Which is Taking Place in the Village Areas of the Non-Chernozem Region of the RSFSR," 16 inter-oblast associated enterprises of the building industry of Glavnechernozembstroy [Main administration for water management - construction in the Non-Chernozem Zone] are being built. As a result, production capacities will be created for the manufacture of sectional ferro-concrete, including sections for large-panel residential construction. This will secure the synchronization of the building of residential and public

buildings. Plants for the production of keramzit [a light-weight concrete aggregate], enterprises for the processing of wood, metal and tooling plants, repair-mechanics plants, and enterprises for the production of installation and electrical-fixture stock will be built.

The development of large associated enterprises of the building industry will enable us to put through plant specialization, to secure a specific nomenclature for each enterprise, to improve the quality of production and to increase the productivity of labor. Taken together, this will sharply increase the effectiveness of production.

One of the decisive conditions for the fulfillment of land reclamation plans is securing working cadres for water management organizations. There has been a constant growth in the detachment of reclamation workers in the Non-Chernozem Zone, collectives are growing stronger and workers are increasing their skills or learning new ones. In comparison with 1974 the number of workers has increased by one-third. Great significance is attached to the creation of a developed educational base in water management organizations.

At the present time in the Non-Chernozem Zone of the RSFSR there are 18 vocational-technical institutions for training workers for reclamation construction sites. Each year 5,000-6,000 young workers move from them to these sites. Basically these cadres consist of tractor operators, excavation workers, bulldozer and scraper workers. The existing SPTU [Agricultural vocational-technical institution] network is expanding constantly, the institutions are being equipped with the newest reclamation technology and equipment and the educational process is being improved.

The educational-course combines make a considerable contribution to the preparation of trained cadres for water management organizations. During the last 3 years alone they have been organized in 21 oblasts and ASSR's. The combines have become centers for the training of machine operators in production. They organize and direct training in PMK's [Mobile mechanized columns] and on an individual-brigade basis. Up to one-third of the total number of trained workers are trained directly by the educational-course combines.

At the same time, because of the acute shortage of machine operator cadres, a significant quantity of reclamation technology remains idle in many PMK's. In order to recruit workers and interest them, it is essential to create normal work conditions for them and to solve many of the problems relating to everyday amenities. A great deal is being done in this direction as well. Progressive forms of labor organization and reimbursement for wages are being introduced, moral and material incentives are widely employed, residential building is proceeding on a large scale, and the supplies of industrial and consumer goods are increasing.

The quality of the administration in water management organizations has improved significantly. During the last 4 years the number of ITR's [Engineering technical workers] in water management organizations as a whole increased 1.5-fold to 14,000 persons. The number of specialists with a higher

education has increased from 2,500 to 4,500 persons. Among them over 30 percent are engineers and technologists with hydraulic engineering and building specialties. Each year about 2,000 graduates of institutes and technical schools are sent into the zone to further strengthen the administrative link of the PMK, consisting of directors and senior engineers.

Each year the organization and labor conditions of reclamation workers in the Non-Chernozem Zone improve. Since 1977 they have received a number of privileges. These include increased wages to machine operators and workers involved in the building of reclamation structures, the retention of pay rates for invited PMK directors and senior engineers, a system of simultaneous allowances and bonuses, supplements to travel allowances, honors for years served. Certain privileges are granted to water management and building organizations in the distribution of living quarters and the assignment of places in pre-school institutions. All of these measures have a positive effect on securing workers and administrative cadres for reclamation organizations of Glavnechernozemvodstroy.

The increasing rate of transformation of the Non-Chernozem Zone of the RSFSR requires a critical appraisal of existing shortcomings in rural building and in the fulfillment of reclamation operations and measures to eliminate them as quickly as possible. Thus, during the first 2 years of the 10th Five-Year Plan hundreds of millions of rubles of capital investments were not assimilated in reclamation construction, the plan for the operational start of a large area of drained and irrigated land was not fulfilled and the goals for peat platforms and cultivation of lands that did not require drainage were not met. The plans for 1978 were not fulfilled.

Hydraulic engineering and agricultural organs tolerate the dispersion of capital investments among small construction sites, as previously. Melioration does not always occur in a complex with primary cultivation.

In 1979 serious goals were put before the reclamation workers of the Non-Chernozem Zone. It is essential to assimilate 1.2 billion rubles of capital investments, to put 400,000 drained (including 280,000 hectares using closed drainage) and 100,000 irrigated hectares of land into operation, and to cultivate 702,000 hectares. These indicators are significantly higher than the planned goals for 1978. Extensive work is planned for residential building (760,000 square meters of area are to be readied), for building social-cultural facilities, PMK production bases and additional capacities in bases of the construction industry.

In order to fulfill these intensive goals, water management organizations must increase their work volume significantly. In connection with this there arises the question of raising the responsibility for the assigned task for all workers, and above all for directors.

The basic directions for the operations of reclamation organizations remain the same--the accelerated growth of capacities of PMK's through the scheduled

operational start of production bases; the continuation of technical re-equipping and renovation of existing enterprises; the continued enlargement of masses and contours and the leveling of boundaries of agricultural lands on reclaimed areas; the formation of starting complexes in reclamation building and in the agricultural development of lands while creating new sovkhozes; a strict limitation of the number of new structures for production purposes with a budgetary cost of less than 3 million rubles as well as non-productive structures that are not of priority.

During the first 6 months of 1979 the reclamation workers of the Non-Chernozem Zone introduced about 250,000 hectares of reclaimed lands. Plans have basically been fulfilled in all 29 oblasts and autonomous republics. But during the second 6 months still greater quantities of transformed lands must be introduced into operation.

The introduction of reclamation measures in the Non-Chernozem Zone has been extremely effective. Practical experience has demonstrated this. Thus, in 1976 the Rodina Kolkhoz, Vologodskiy Rayon, Vologodskaya Oblast, produced 40.3 quintals of grain per hectare on each of 579 drained hectares, as compared with 13-17 quintals per hectare produced prior to the reclamation work. In 1977 on a drained area of 734 hectares the grain yield was already 44.9 quintals per hectare.

Many farms of Smolenskaya Oblast completed their cultivation work and introduced an average per hectare of 30-40 tons of organic fertilizers, 8-10 quintals of mineral fertilizers and 3-5 tons of lime. For example, in the Kolkhoz imeni Pushkin, Gagarinskiy Rayon, all of the aforementioned measures in a complex with operations to drain the land enabled farmers to increase the yield of hay from perennial grasses to 35-45 quintals per hectare in 1977-1978, as compared with the 10-15 quintals per hectare obtained previously. In 1977 in the Kolkhoz imeni Radishchev of the same rayon 61 quintals of hay per hectare were produced from perennial grasses from an area of 400 hectares of improved lands.

Such progressive enterprises now exist in every oblast and in most rayons of the Non-Chernozem Zone. Even in 1978, which was a difficult year because of the weather conditions, the Krasnoye Znamya Kolkhoz, Pskovskaya Oblast, produced 33.5 quintals of grain per hectare from 414 hectares and the Iskra Kolkhoz, Novgorodskaya Oblast, produced 32.5 quintals of grain, 182 quintals of potatoes and 680 quintals of feed root crops on each of 510 hectares of drained lands. This is what drained lands can produce if they are well managed, even under the most unfavorable weather conditions.

These and many other examples confirm the significant effectiveness of reclamation measures as well as the importance of complex reclamation for increasing agricultural production on the fields of the Non-Chernozem Zone. The experience of kolkhozes and sovkhozes that have achieved high-profit management of farms using reclaimed lands deserves careful study and continued extensive dissemination in the entire zone.

The transformation of agriculture in the Non-Chernozem Zone of the RSFSR has become the concern not only of the workers of this zone, but also of those from most union republics, krays and oblasts of the RSFSR. Participation has taken many directions--the building of a production base and residential quarters, land reclamation, and the sending of cadres.

The Leninist Komsomol has made a significant contribution to the renewal of the Non-Chernozem Zone. Over 20,000 young men and women have been sent to hydraulic engineering organizations on assignment for the Komsomol during 1975-1978 alone. In 1978 about 120,000 persons worked on construction sites in the Non-Chernozem Zone in student detachments; in 1979--over 150,000 persons.

Krasnodarskiy Kray, Kuybyshevskaya, Astrakhanskaya and Rostovskaya oblasts, the Uzbek SSR, the Belorussian SSR, the Lithuanian SSR, the Kirgiz SSR and a number of other oblasts and krays of the RSFSR and union republics have been rendering considerable aid for the reclamation and agricultural building of the Non-Chernozem Zone.

In the Non-Chernozem Zone intensive work is going on to fulfill a grandiose, complex program. On the transformed lands of the zone there will be an increase in production from agriculture and animal husbandry, which is so necessary for improving the well-being of Soviet workers.

COPYRIGHT: Izdatel'stvo "Kolos", "Ekonomika sel'skogo khozyaystva", 1979

8223  
CSO: 1824

## LEONID LEVITIN COMMENTS ON LIVESTOCK COMPLEXES

Tselinograd FREUNDSCHAFT in German 5 Oct 79 p 2

[Article by Leonid Levitin, candidate in economics: "A Complex Solution to the Problem of Complexes"]

[Text] Are complexes profitable or not? Are they perhaps a premature phenomenon? Are they perhaps a tribute to fashion, or are they an objective necessity?

Discussions on this subject can go on and on. Unfortunately, most of the complexes are not profitable. They bring losses. Attainment of the projected capacity seems, in this case, to be a thing of the distant future. There are fewer and fewer advocates of these complexes.

Who is right?

Let us turn to the facts.

In the Karagandinskaya Oblast, construction of the Volynski Complex for pork production (annual capacity: 108,000 pigs) had been dragging for years. After production started, the scarcity of suckling pigs, of personnel training in this field, many construction defects and the lack of synchronization in the operation led to serious failures. As a result, profits were low and there were fluctuations in management personnel. Such conditions prevailing in the largest pig-raising complex of the Republic gave rise to doubts concerning its utility. Since a similar situation prevailed in many complexes of various kinds, the opinion that the constructions of such complexes had begun too early became more widespread. The economic indicators for 1975 confirmed this point of view. In fact, in that year the sows in our reproduction sector had produced less than 26,000 suckling pigs--i.e. 5 pigs per sow. The amount of work required for the production of one deciton of weight increase reached 19.5 hours.

After fattening, the pigs weighed 85 kilograms. While the cost of obtaining one deciton of weight increase amounted to 220 rubles, one deciton of pork meat was bringing in less than 137 rubles. The loss for that year amounted to 766,500 rubles.

Party organs turned themselves to this problem. Management was reinforced, the composition of the specialized personnel improved, the qualifications of all workers upgraded. Supervision of the work of all sections was introduced: from the reproduction division to the feed division. Good technical care of the animals was introduced. Strict fulfillment of all requirements of zoo-technology and veterinary medicine gained force of law. Economic analysis was practiced daily. Little by little, everything began to work. Already in 1977, the end-of-year herds reached 73,000 pigs, the weight increases were 11.5 times as large as in 1975. Soon, all economic indicators were improving. Feed consumption per deciton of weight increase fell to only 5.3 decitons of feed units, the amount of work required to only 3.24 hours. The cost price of 1 deciton of weight increase diminished by more than half compared to 1975. The complex brought a profit of 4,884,000 rubles. While in 1975, 5,300 rubles' worth of products had been delivered per worker, 25,200 rubles' worth were delivered in 1977.

In 1978, 108,500 suckling pigs were obtained at the complex, 93,600 of which were to be fattened.

Such decisive changes can be obtained when order is created in the complex, when everyone does his job seriously, when the collectivity is called upon to help overcome difficulties.

The Krasnoyarski Sovkhoz, a complex for the production of milk in Tselinogradskaya Oblast, can be cited as an example of efficient organization. Here, complex solutions have been found to the problems of the complex. Unrelenting attention is devoted to the selection of cows, to the analysis of the pedigree of each cow and calf of the complex. The complex accepts only animals with good prospects: cows which yield a lot of fat milk and good calves, and which have well-developed udders and teats (suitable for machine milking). Here, everything is weighed and decided carefully, objectively and competently.

The complex contains highly productive cows, this is confirmed by the productivity appraisal. Hardly any other concern in the oblast possesses such an outstanding herd of dairy cows. There are here 600 head of cholmogore cattle which supply 3,000-3,500 liters of milk per year. Elite and first-class cows, yielding over 4,000 kilograms of milk per year, constitute the core of the stock. In the near future, such cows will form the main part of the herd. This is how smart people plan ahead. This is how one can achieve a great success. In addition to the cholmogore, the complex is also experimenting with the black and white breed.

In this complex, the average annual production per cow already exceeds 3,300 kilograms. The objective of 4,000 kilograms for the near future is quite realistic.

In addition, the conversion of livestock raising to industrial methods is of great organizational importance. Livestock raising requires an accurate organization within the agricultural industry. This applies to the selection and composition of the herds, to the feed base, the mechanization, the training of management personnel, etc. in all sectors of the concern. The complex is an independent concern, but it is not isolated. It is directly connected to all production sections. The whole agricultural concern, the rayon and also the oblast benefit when things are run smoothly in the complexes.

The following examples are eloquent witnesses to this.

During the Tenth Five-Year Plan, production in the dairy complexes of the Severo-Kazakhstanskaya Oblast are expected to produce 25,000 tons of milk--6 percent of the total production. In the complexes, there are 7,200 cows. There should be 17,600 in 1985, and milk production should reach 56,000 tons. All together, 15 percent of the total milk production of the oblast should be produced industrially. Even such a small contribution of the complexes will considerably increase milk production efficiency. While yields of 2,280 kilograms are possible in ordinary cattle farms, these yields reach 3,000 kilograms and more in the complexes, even though projected capacity has not been attained yet. Average yields in the oblast are 2,375 kilograms. The following calculations are interesting. While only 1,144 people are reported to be working in the complexes, there are 14,262 people on ordinary farms in the oblast. While a complex can supply 19,000-21,000 rubles' worth of production per worker on the average, an ordinary cattle farm can produce only 10,000 rubles' worth.

How to increase the production of animal products to such an extent as to secure the per capita standard prescribed by nutrition experts is one of the most complicated problems. To achieve this goal, it is necessary for the livestock breeders in all oblasts to pool their efforts. No industrial area of the republic--Karagandinskaya, Pavlodarskaya, Dzhezkazganskaya, Mangyshlakskaya Oblasts, etc--be it ever so developed, can solve this problem on its own. This is why, parallel to the greatest possible development of agriculture in these oblasts, we must also intensify livestock raising in the following important agricultural oblasts: Kustaninskaya, Severo-Kazakhstanskaya, Tselinogradskaya, Kokchetavskaya, etc.

The industrialization of livestock raising requires considerable investments. At present, we already have a schema of the local distribution of complexes in the republic and in the whole country. In only eight oblasts of North and Central Kazakhstan, hundreds of millions of rubles will have to be spent during the years 1981-1985 in order to build new complexes, to transform

working farms into complexes, and to rebuild some of the farms. Considerable means have been made available for water-supply to the farms, for the creation of irrigated artificial pastures, for veterinary services to the complexes and for the protection of farm workers' health. These allocations will be still larger under the Eleventh Five-Year Plan.

Only a complex solution of the problem can guarantee the success of this important public affair.

9294

CSO: 1826

## SUBSIDIARY FARMS AT ENTERPRISES--IMPORTANCE EMPHASIZED

Moscow TRUD in Russian 3 Oct 79 p 2

[Article by G. Shmelev, doctor of economic sciences: "A Subsidiary Farm for an Enterprise"]

[Text] I shall begin by permitting myself to present two examples.

In winter at the dining halls and snack bars of the Salavatskoye Industrial Glass Association they serve salads made of fresh cucumbers and tomatoes, green onions and apple compote. All of this is the output of the enterprise's subsidiary farm. Over 14,000 square meters here are occupied by hothouses, which are heated by exhaust steam. Apple and cherry trees, currant bushes and gooseberry bushes and black rowan berries have been transplanted in the orchard. The subsidiary farm supplies kindergartens and the workers' dining rooms at the shops with vegetables and fruit.

The subsidiary farm for the Rybinskoye Motor Building Production Association has its own poultry farm. The 12-15 million eggs that it produces fully supply the demand of the enterprise's commercial kitchens. The livestock breeding farms supply the dining halls with pork, fresh beef and poultry. The meat demand is 25-30 percent met here through its own resources.

As is known, the principal suppliers of foodstuffs in our country are the kolkhozes and sovkhozes. Even though the subsidiary farms have a considerably smaller output, it is still too early to give them up, because these farms to a considerable extent help to improve and lend variety to the menus at the workers' dining halls and to satisfy more fully the people's demands for food products. I must remind you that in the book, "Tselina" [Virgin Soil], Comrade L. I. Brezhnev, in criticizing the directors who rely on the "all-powerful" resources, noted: "In our country use must be made of any potential, of each plot of land, in order to increase the production of agricultural products everywhere and to have "rations" for our common table...."

What is the economic expediency of subsidiary farms? First of all, it lies in the fact that they make it possible to draw into the production process the material and labor resources of society that cannot be used at large

agricultural enterprises. The subsidiary farms are allotted mainly lands that have low fertility or have been neglected and that are not used by the sovkhozes and kolkhozes.

Next. This form of farms utilizes to the maximal extent the food wastes of the public catering enterprises. At some feeding centers set up by the industrial enterprises, food wastes constitute up to half or more of the total amount of fodders. The cooperation of the plants with the public catering enterprises is very fruitful. For example, the plants in the city of Nizhniy Lomov, which is in Penzenskaya Oblast, in conjunction with the city trade administration, have established a livestock breeding complex on a share basis. The enterprises have mechanized all the production processes and the animals are being fattened by using food wastes.

The agricultural shops of the industrial enterprises use exhaust steam and other "waste" heat, which serves to warm the hothouses, equipment that is reconditioned, yielded from their own resources and the by-products of the principal production facilities. The physical potentials of industrial enterprises make it possible to reduce capital investments and to expend considerably fewer resources per unit of agricultural output than at the kolkhozes and sovkhozes. This is precisely why the expenditures made to organize subsidiary farms are paid back relatively quickly. According to the estimates of economists at the RSFSR Ministry of the Building Materials Industry, small rural shops at plants of this department pay for themselves in two to three years.

Subsidiary farms make it possible to put into action still another reserve--the labor reserve. Pensioners who are no longer capable of working at the principal production facility are glad to work on harvesting crops when work hands are particularly needed at the subsidiary farm. Mothers with many children and teenagers take part in the seasonal jobs. The Leningrad Optical Instrument Association has an interesting experiment. Its subsidiary farm is located in the recreation area of the enterprise's workers--in the settlement of Tarasovo. In winter the output of the agricultural shop is received at the dining halls of the enterprise, and in the summer--at the dining halls of the recreation area. In return there are 130 persons working there in addition to the regular staff, those who spend their summer leave at the settlement, but of course, in accordance with their wishes and in reasonable amounts.

There are now approximately 43,000 subsidiary farms at enterprises, institutions and organizations in the country. On the average in a year they produce 275,000 tons of meat, about 800,000 tons of milk, over 660 million eggs, 800,000 tons of potatoes and 530,000 tons of vegetables. This is a substantial addition to the state food stocks!

The arctic cities of Apatity, Kirovsk and Vorkuta are supplied with whole milk produced by the subsidiary farms of the enterprises. The dining halls of the miners' cities in the Kuzbass obtain potatoes and vegetables from the

sovkhозes of the urs [administration of workers' supplies] of the Kuzbassugol' Production Association. The Arkhangel'sklesprom Association obtains from the subsidiary farm an average of 12 kilograms of meat and 22 liters of milk per worker per year. These figures are particularly significant if one takes into account the fact that last year 56 kilograms of meat and 320 kilograms of milk and dairy products were consumed in the country per capita on the average.

I will note that the rural subsidiary farms at enterprises and institutions have quite a long history. They were first organized in the 1920's and 1930's, but were widely developed in the prewar years. During World War II their role in improving the food supply was particularly great. At that time the rural shops of the enterprises produced approximately 10 percent of the goods going to feed the urban population (not counting cereals and flour).

In the 1950's and 1960's, however, considerably less attention began to be paid to this source of obtaining foodstuffs. During the last 15-20 years the production at subsidiary rural farms at enterprises was substantially reduced. Also correspondingly reduced was the entry of the output of these farms into trade and public catering--of milk, by 2-fold, potatoes--2.3-fold and vegetables--by 3.2-fold. Why did this happen?

Underestimation of the rural shops at the enterprises and the desire of some ministries and departments to be rid of additional trouble, as well as the excessive hopes put on the state food stocks, all had an effect. The poor quality of the material-technical provision for the rural shops played an adverse role. The prices at which the subsidiary farms supplied their products were much lower than those at which the goods produced at the kolkhozes and sovkhozes were sold. Many rural shops began to show a financial loss and were therefore eliminated.

The important role of the subsidiary farms at enterprises was emphasized at the CPSU Central Committee July (1978) Plenum. On 4 December 1978 the CPSU Central Committee and the USSR Council of Ministers adopted a special decree "On Subsidiary Rural Farms at Enterprises, Organizations and Institutions," which specified a set of measures devoted to contributing to the further development of the rural shops.

The enterprises will be granted parcels of land to organize subsidiary farms. Appropriate agricultural organs were obliged to supply them with varieties of seeds, planting material and young pedigreed cattle. Beginning next year tractors, combines and mineral fertilizers are to be allotted to the ministries and departments for the subsidiary farms. The rural shops will be provided with machines, equipment and spare parts in accordance with the procedure established for kolkhozes and sovkhozes. The subsidiary farms of enterprises and organizations will be able to obtain loans from USSR Stroybank and USSR Gosbank for a period of up to six years to organize and expand their material-technical base. Henceforth rural shops will produce

meat and milk for public catering at the dining halls of their enterprises at the procurement prices in effect.

The measures specified by the party and the government create the necessary prerequisites for the development and efficient functioning of the subsidiary farms. In the next few years there is to be a considerable increase in the number of them in regions being newly opened up that have an inadequately developed agriculture, for example, at the construction of the Baykal-Amur Trunkline and at logging and petroleum-extractive enterprises in the East and North of our country. The rural shops at the enterprises of the food industry, public catering and trade should be more widely developed in the areas of health resorts and mass tourism, where during the periods of the seasonal influx of vacationers the demand for food increases.

I should also like to discuss two more serious problems. Sometimes the planning and trade organs curtail the food supply stocks for the enterprises that have subsidiary farms. It turns out that the plants contributing the resources and labor for the agricultural shops are essentially punished for their initiative. Meanwhile the subsidiary farms, which provide additional food, can and should become an important source of support for the successful work of the enterprises, since they improve the everyday life of the workers.

The rural shops are primarily called upon to supply the collectives of the enterprises. Therefore no plan for the sale of agricultural products is established for them. Here and there, however, the local organs act otherwise--they oblige the subsidiary farms to turn over meat, potatoes and vegetables. It is important to put an end to these tendencies. This sort of practice reduces the enterprises' motivation to develop their own subsidiary farms.

Now, when in management policy increasing attention is being paid to reducing losses and to optimum use of material, labor and financial resources, economically sound production of agricultural output at the subsidiary farms at enterprises is becoming particularly important. Essentially each plant can organize at its own facilities rural shops for the production of meat, milk, potatoes and vegetables.

12151  
CSO: 1824

## LIPETSKAYA OBLAST CRITICIZED FOR SHORTCOMINGS IN AGRICULTURE

Moscow PRAVDA in Russian 19 Sep 79 p 3

[Article by K. Pankova and I. Titov: "At Slow Speed"]

[Text] An exhibit called "Gifts of Our Land" was set up in a rayon of the Lipetskaya Oblast. It was a pleasant sight to see wheat and barley with yields of 40-45 quintals which was outstanding for this zone, by half-pood sugar beets, meaty tomatoes, the most diverse colors and shades of apples, pears and plums. The exhibit graphically revealed the potential of the land here. In skilled, loving hands, it can be responsive and generous.

And this is confirmed by the experience of man, farms. Last year, for example, grain growers of Dobrinskiy Rayon obtained an average of 28.6 quintals per hectare of grain. High indicators were achieved by farms of Usmanskiy, Lipetskiy, Zadonskiy and Khlevenskiy rayons.

The thought comes unbidden: why, with its favorable opportunities, does agricultural production in many rayons of the oblast develop slowly, even yielding its position, as kolkhozes and sovkhozes stand deeply in debt to the state?

After the March (1965) CPSU Central Committee Plenum, agriculture in the Lipetskaya Oblast substantially strengthened its material and technical base. In 13 years, about 1.5 billion rubles in capital investment was directed into it. Farm fixed assets increased more than fourfold. Dozens of large stockraising complexes were built. The amount of energy available to labor was increased. It began receiving twice as much mineral fertilizer.

And the return? Inconsiderable to this point. The average annual gross agricultural output volume during the first three years of the 10th Five-Year Plan had increased only 10 percent as compared with, let's say, the Eighth, and it even decreased in plant-growing. Grain, pea, potato and corn yields increased little, and Lipetsk kolkhozes and sovkhozes harvested less sugar beets, sunflower seeds, oats and groats per hectare than previously. And it was not because of the weather, which some have attempted to use to explain this marking time. Even on irrigated fields on farms of the Yeletskiy Rayon, for example, only 17-20 quintals per hectare of hay are harvested, and in Lebedyanskiy Rayon--100 quintals of corn vegetation.

In the past seven years, the oblast has failed more than once to meet the state plan for sales of sugar beets. Plans for purchases of several other types of output have not been met. For the past three years as a whole, the state was not provided with 204,000 tons of grain, 52,000 tons of sunflower seed and much other output by Lipetsk kolkhozes and sovkhozes. The oblast was criticized at the July (1978) CPSU Central Committee Plenum for developing agriculture slowly.

What causes this situation? Why has the growing potential of the farms not yielded the necessary return.

Take, for example, Chaplyginskiy Rayon. In terms of the quality of its land, it is by no means the worst off. But how poorly that land is farmed! Average annual grain yields in the 10th Five-Year Plan have not only failed to increase, but have decreased from 16 to 15.6 quintals per hectare as compared with the Eighth Five-Year Plan; sugar beet and potato yields have decreased nearly twofold, and millet and buckwheat--threefold.

The reason for the drop is low farming standards. The chase after instantaneous success has led to a situation in which there are practically no more agrotechnically substantiated crop rotations. Large areas of grain are sown on poor predecessors and the best times for preparing the soil are neglected. About 80 percent of the land plowed in autumn for spring sowing is broken up in the second half of September and in October. The bulk of the land often spends the winter unplowed.

"Farming standards are still low here," admits A. Sviridov, chief of the rayispolkom's agriculture administration. "On the one hand, we have not been able to develop among people a proper attitude towards the land, and on the other, there is a shortage of equipment."

True, there is still not very much machinery. But what there is of it is still not being used in the best manner. The shift output per tractor and combine is nearly half the planned level. Down time and breakage are frequent. Progressive forms of labor organization and machinery operation are not being disseminated here. Much is said about the Ipatovskiy method, but little practical use is made of it. The party raykom and rayispolkom have decreased their demandingness of farm leaders and specialists for equipment use and the fate and fertility of the land. Those to blame for violating agricultural technology are essentially not held accountable.

Unfortunately, similar attitudes are also typical of Stanovliyanskiy, Dankovskiy, Krasninskiy, Lebedyanskiy and several other rayons. As a result, many oblast farms systematically fail to adhere to schedules for preparing equipment or doing field work. In 1977, at the start of the harvest one in every 10 tractors and vitamin meal preparation units and a great many grain and sugar beet harvesting combines were found to be inoperative. They had to be repaired hurriedly. Still, some machinery did not get to the fields.

One would think the lesson had been learned, but a year later everything was repeated. Less than a third of the grain was harvested in half a month of dry, sunny weather last summer. We happened to spend that time on farms in Stanovlyanskiy, Dankovskiy and Krasninskiy rayons. Almost half the combines were not used during the heaviest harvest period. And emergency measures were taken only after the rains came.

Then they began storming. However, it was hard to make up what had been neglected: the harvest lasted until late autumn. All this led to quite a bit of harvest losses. Farms of Lebedyanskiy, Volovskiy, Dobrovskiy and Dankovskiy rayons failed to harvest a great deal of grain, and nearly a third of the sugar beets remained in the ground.

In the agricultural leadership of many oblast rayons, planned work and the systematic solving of problems are more and more being replaced by storming. People are accustomed to emergency work, to all manner of shock-work weeks, 10-day periods and months, and have ceased to labor in a planned manner. This is very harmful.

Violations of agricultural technology rules and work schedules have had a serious effect on the condition of the fodder base. Kolkhozes and sovkhozes have 40-60 percent of the norm amount of forage. Hundreds of thousands of tons of concentrates are purchased from the state each year. Why the shortage? Feed production cannot say it is not involved. Each spring, feed procurement brigades and links are created everywhere and high obligations are assumed. And then it turns out that a majority of the links exist only on paper.

Lack of personal responsibility leads to a situation in which the most responsible operation -- forage procurement -- occurs with gross violations of technology. Last year, 60-70 percent of the haylage and silage was of such poor quality that it had to be used only after special treatment. And even what was obtained was stored and used thrifitily by no means everywhere.

In plant-growing, the feed production situation is aggravated by the practice which has evolved of distributing capital investments. A large part of them is directed not into farming, not into strengthening the forage base, but into building stockraising premises of concrete and steel. As a result, farms are built but, due to a shortage of forage and livestock, many have no animals for long periods after construction. The Kolkhoz imeni Ordzhonikidze in Lipetskiy Rayon built a farm for 6,000 heifers. It cost the farm five million rubles. But when the facility was finished, there turned out to be no livestock and nothing to feed them with. Enormous sums did not yield the necessary return.

Not an isolated instance, unfortunately. Today, premises for 40,000 head of cattle, 230,000 hogs, 15,000 sheep and about one million poultry stand empty in the oblast. At the same time, upwards of 200 small farms have ceased to exist, on the pretext of specialization. Millions of rubles has been frozen in expensive and thus far useless installations.

More than a year has passed since the July (1978) CPSU Central Committee Plenum. What conclusions have been drawn from the criticism, how has the state of affairs been improved?

Certain advances in developing oblast agriculture have taken shape, but no decisive turning point has been forthcoming. And this has been because the old methods of guiding the branch have not been changed. As before, the emergency is favored. This year, it unexpectedly turned out prior to plowing the fallow that the land had not been fertilized. So a two-month period of shock work was declared. While they made up their minds, time was lost. The measure was carried out, after a fashion, but little was gained by adjusting the plowed fields this way.

The perniciousness of storming is that forces are thrown into shock-work 10-day periods and months to the detriment of performing other important work. In attempting to catch up in one area, they fall behind in another. While fertilizer is hauled to the fields, equipment maintenance schedules are neglected. By the start of the harvest, a considerable number of combines were again not ready to go out into the fields. In Khlevenskiy Rayon, only 88 of 140 combines had been overhauled and checked as of 20 June. They were late in preparing machinery in a number of other rayons as well. Delay in servicing equipment and disorganization during the heaviest harvest period led to a situation in which cereal crops on many thousands of hectares had not been harvested even by late August on farms of Pankovskiy and Lebedyanskiy rayons. All this led to harvest losses.

The situation was not corrected this year. The dry weather had a lot to do with it, of course, but it harmed first of all those who had been careless and violated agricultural technology. Whereas the leading farms harvested an average of 15-20 quintals per hectare of cereals, the oblast average was less than eight quintals. The procurement plan for hay was met by only one-third, and by 10 September, nearly one-fifth less haylage had been stored up than a year ago. The state of affairs in stockraising also deteriorated. During the past eight months, livestock and poultry purchases were 6,000 tons less than in the same period last year and the amount of milk and eggs sold was down. The number of head of livestock is increasing slowly, livestock productiveness is low, and epizootic has increased.

And what has the party obkom's attitude been towards the situation which has developed? Of course, the neglect in developing agriculture has not gone unnoticed. The state of affairs in plant-growing and stockraising has been reviewed at plenums, bureau meetings and meetings of the party farm aktiv. However, the reports and speeches often bristle with facts and figures depicting agriculture in a favorable light. The criticism has been aimed primarily at rayon, organization and farm leaders for failing to meet plans. There has been no self-criticism or thorough analysis of the work methods which have evolved. Essentially, the oblast has made no attempt to investigate thoroughly the first causes of the lag in this most important branch, the style and methods of guiding it. And this disturbs many communists. Locally, we heard again and again that it is time to finally change the agricultural leadership practices which have evolved in the oblast.

The formal approach to competition has caused many complaints. Each year, farm collectives assume high socialist obligations. The mass media propagandize the frontiers outlined. But here it is the end of the fourth quarter, and it turns out that what was planned is not being implemented. People guess this only because summaries of progress in the competition in the labor collectives and materials on the successes of the leading workers have suddenly disappeared from the pages of the local newspapers. Alas, the break-down is not considered an extraordinary occurrence.

The situation which has developed in the oblast became possible first of all because the party obkom bureau lessened its attention to problems of developing agricultural production and was not as demanding as was necessary of party cadres to improve the style and methods of branch leadership. The agricultural department has not penetrated deeply into the activity of the party organizations and of workers in the oblast agricultural administration and the specialized trusts and associations. Attention has been focused on day-to-day problems. Long-range problems, on whose solution the fate of the branch depends, have remained secondary considerations.

In Lipetskaya Oblast, the party organization has accumulated quite a bit of experience in solving economic and educational problems. It has well-trained cadres. The oblast has available to it a developed industry and powerful resources. We should like to believe that the party and economic organs will succeed in finding the necessary effective forms of agricultural leadership, overcome the lag, and raise agriculture to the level of the tasks set by the 25th CPSU Congress.

11052

CSO: 1824

## CATCH CROP SITUATION IMPROVED IN MOLDAVIA

Kishinev SOVETSKAYA MOLDAVIYA in Russian 25 Jul 79 p 1

[Article by I. Chelak, chief agronomist for fodder crops of the Moldavian SSR Ministry of Agriculture: "Catch Crops--A Fodder Reserve"]

[Text] This year rural workers obtained the opportunity of substantially supplementing the reserves of green and succulent fodders and of prolonging their being received at farms up to late fall through sowing catch crops.

Many farms in the republic have acquired a great deal of experience in this enterprise. For example, the Put' k Kommunizmu Sovkhoz in Yedinetskiy Rayon through late-summer plantings last year grew an additional 2,000 tons of green fodders, the Reutsel Sovkhoz in Faleshtskiy Rayon--2,300 and the Zarya Sovkhoz in Lazovskiy Rayon--3,000. Some years, through catch crops, the Leovskiy Sovkhoz-Tekhnikum for Agricultural Mechanization procures up to 4,000-4,500 additional tons, after sowing them on an area of 350-400 hectares. Over 500 hectares have already been planned for sowing here this year. On an area of 200-220 hectares catch crops were grown at a veterinary sovkhoz-tehnikum in Grigoriopol'skiy Rayon and at the Put' k Kommunizmu Sovkhoz in Yedinetskiy Rayon.

The decisive condition, however, for obtaining satisfactory yields of catch fodder crops (130-150 quintals on unirrigated land and 250-300 with irrigation) is not only on-schedule harvesting of the winter grain crops, but also the maximum preservation of the available moisture and on-schedule and high-quality preparation of the soil and sowings for the next crop. Experiments have proven that every 2-3 days of delay in sowing cost a loss of 5-8 days in the vegetation period, and consequently, a low yield.

All the work on organizing the after-harvest sowings should be performed in a complex, and the sections to be sown should be determined in advance, with the crop yields from them harvested in first order of priority. Immediately following this the field is cleared of the chaff and the soil and sowing are prepared. It must be taken into consideration that the soil, freed from the winter grain, dries out very quickly during the hot July days and compacts,

which makes it impossible to put it into high-quality condition for sowing. Because of this, it is expedient to harvest the land parcels designated for the catch crops with combines equipped with devices for simultaneous harvesting, pulverizing and removing the chaff. At farms that do not have such devices, and where the hay is disposed of in the form of bales, every measure must be taken to clear the fields of the after-harvest residues extremely rapidly.

For maximum moisture preservation and prevention of clump formation, the soil for the catch crops should be prepared only on the surface with heavy disk implements and flat cutters to a depth of not over 10-12 centimeters. Using moldboard plows, as is done at many farms, leads to the formation of clumps, great moisture loss, a delay in carrying out the sowing and sometimes even to disrupting it.

In order to obtain a satisfactory yield from the catch crops, heat-loving crops such as corn (in pure form and mixed with soy and Sudan grass) should be sown no later than 25-30 July. After this the planting of the catch crops may be continued (but no later than 10-15 August) with crops that are better able to withstand early fall light frosts--a mixture of peas with sunflowers, peas and vetches with oats and winter rye.

The practical experience of the leading farms shows that a high yield of green mass from catch crops may be obtained when they are planted deeper: the sowing norm for corn per hectare is 80-100 kilograms of seeds. When corn is planted in a mixture with other crops, 25-30 kilograms of soy and 10-15 kilograms of Sudan grass seed are added. The norms for sowing peas, vetch and oats should be weighted 20-25 percent higher: 15-20 kilograms of sunflowers are added to the norm for sowing peas.

The seeds of the catch crops should be planted 1.5-2 centimeters deeper than those of the spring crops, and only in the moist layer of soil. To obtain even stands, the plantings are packed with ring or flat rollers. To combat weeds, pre- and post-germination harrowing is carried out. Using the Szs-2.1 stubble seed drill gives the best results when sowing corn and its mixtures on the surface of a cultivated field. In addition, it loosens the soil, applies fertilizer and packs down the seedlings.

Widescale use of catch crop planting this year will make it possible for each farm to supplement considerably the supplies of fodders for social livestock breeding.

12151  
CSO: 1824

## PRIVATE SUBSIDIARY FARMS FOR INCREASING THE FOOD SUPPLY

Moscow SOVETSKAYA MOSSIYA in Russian 23 Oct 79 p 2

[Article by G. Usmanov, chairman of the Council of Ministers for the Tatar ASSR: "Gardens To the Aid of Fields"]

[Text] The following situation is observed occurring rather frequently. Plans are formulated at a kolkhoz or sovkhoz for the development of social production, calculations are carried out on the amounts of meat, milk, eggs and grain that will be obtained, information is furnished on the number of animals to be maintained and hectares to be sown and yet the private plots and private subsidiary farms -- consisting of thousands of hogs, sheep, cows, ducks, turkeys and beehives -- are not taken into account. Here they maintain that everything forms of and by itself, with no assistance from the village soviet of social organizations.

Yet the situation is entirely different in the towns of the Starokuakskiy Village Soviet at the Leninskiy Put' Kolkhoz and for Veniamin Georgiyevich Aryutin. Here each clump of dirt is taken into account, as inspection is carried out to see if the people are maintaining livestock or poultry and if they are not -- an attempt is made to find out why. One priority task included in the current long-range plans is that of furnishing assistance to the population in the management of the subsidiary sector. A principal concern is that of ensuring that greater respect is shown at the kolkhoz for those who combine their labor on the public fields with work on their own gardens, rather than for those who used their free time for useless activities. All of Aryutin's personnel are carrying out their tasks and the Leninskiy Put' Kolkhoz is managing. Generally speaking, there is no shortage of working hands at this kolkhoz, where poultry are to be found in each yard. The workers have strong ties to the land and to their native kolkhoz. The village of Staryy Kuak is located in the center of rich oil workings, which tend to attract other workers. However, curiously enough very few workers are leaving the Leninskiy Put' Kolkhoz. Over a period of 10 years, the rural population in Leninogorskiy Rayon has decreased by 25 percent and yet in Staryy Kuak -- by only six percent. Recently the kolkhoz has assumed a youthful appearance by 2 years -- the average age of the farm's

workers is 36 years. It is important to note that work is proceeding well at the kolkhoz. The farm fulfilled its five-year plan for the sale of meat in just 3 years, its grain plan in four years and milk shipments are presently in excess of the volumes called for in the schedule.

Certainly, there is no purpose to exaggerating the role and importance of the private plots or the privately owned livestock. The principal bulk of the agricultural products is being furnished and will continue to be furnished by the kolkhozes and sovkhozes, state and interenterprise complexes. Further production specialization and concentration represents the general line to be followed for agricultural development. In the Tatar ASSR, for example, there are 78 large modern factories producing meat, milk and eggs on an industrial basis. Together with the traditional farms of kolkhozes and sovkhozes, they are furnishing a considerable proportion of the livestock husbandry output and they are making it possible to cope successfully with the plans and tasks. During 3 years of the Tenth Five-Year Plan, the rural workers increased their meat sales by 12 percent, eggs -- by 58, milk -- by 17 percent. In 1985 there will be approximately 200 such modern agricultural enterprises in operation throughout the republic. They will furnish a considerable portion of the products being produced in the public sector, one half of the pork and one fifth of the milk. At the present time, all of the marketable eggs are being supplied by specialized factories of Ptitseprom.

But it is wrong to think that there is no need for taking into account the private plots and private orchards and gardens. Nor is there very much of this land. Of 4 million hectares under crops at kolkhozes and sovkhozes in the Tatar ASSR, private plots account for only 100,000 hectares. However, this area produces one half of the potatoes, 39 percent of the livestock and poultry meat, 25 percent of the milk and large quantities of vegetables, fruit and berries.

However, the specific socio-economic situation in recent years has been such that the proportion of food products being produced by the private subsidiary farms has been falling. It is rather disturbing to note that the number of individuals working orchards and gardens and raising livestock and poultry is decreasing; a greater number are displaying a preference for utilizing the services of food stores, dining halls and restaurants.

True, this circumstance can be explained in terms of the rapid rates of development of settlements and cities and the movement of the rural population to construction projects, trades, factories and plants. In the Tatar ASSR, in addition to the development of such traditional industrial centers as Kazan', Bugul'ma and Chistopol', a number of oil-worker cities and settlements have appeared in recent years: Aznakayevka, Aktyubinskiy, Al'met'yevsk, Leninogorsk. Cities continue to grow before one's eyes: Nizhnekamsk, a city of motor vehicle builders and power engineers with a population of 130,000 and Naberezhnyye Chelny, where more than 300,000 individuals have settled over a period of 10 years. In the industrial

Zakam'ye region alone, within a small area of 15,000 square kilometers, the municipal population has been increased by almost 1 million persons. Many came from the rural areas. According to the 1926 census, 10 percent of the republic's population -- 253,800 persons -- lived in cities and the remaining 90 percent -- 2.3 million persons -- in villages and auls.

Today's demographic statistics reveal a completely different picture. There are now in excess of ten times more city-dwellers in the republic -- 2.12 million persons -- with only 1.28 million living in the rural areas.

Naturally, less people are maintaining their own livestock and poultry or using their own food products. This was inevitable. However, the local organs of authority are seriously concerned over the fact that there are many families in the rural areas which do not wish to burden themselves with private plots or the maintenance of poultry, cows or young pigs. As a result of such a reduction in the number of villages and auls and also in the number of peasant farmyards, not every rural family has livestock or poultry, vegetable beds, 5-10 bushes of raspberries or fruit-bearing apple trees at its disposal. For every 100 rural farmyards there are 85 head of cattle, including 54 cows, 25 hogs and 337 sheep and goats. Certainly, these figures are low and thus the possibility exists of increasing the private herd.

During the past 3 years, we succeeded in "intervening" in the process of livestock and poultry reductions in the private sector. Compared to 1975, more cows, hogs and sheep are appearing in the farmyards of kolkhoz members and sovkhoz workers. Last year the kolkhoz members and workers acquired 100,000 young pigs and 5,700 head of young cattle stock, as well as 8 million chicks and ducks. Many amateurs began breeding rabbits. Constant concern is being displayed on the kolkhozes and sovkhozes for the private subsidiary farms. Successful work on the part of the leaders and peoples' deputies is evidenced not only by the production indices but also by the manner in which the people live and by the products available on their tables -- from a store, ordered from a public storehouse or their own products. And the population is willingly beginning to concern itself with the private sector, to acquire livestock and poultry and not just for the purpose of satisfying its own requirements but also for selling excess products to the state and also at the market. For example, last year the residents of the Kulayevskiy Village Soviet in Pestrechinskiy Rayon sold 8 tons of meat, 40 tons of milk, 30 quintals of wool and 100 tons of potatoes. Here a sovkhoz is furnishing assistance to the people in laying away feed for the livestock and poultry and in acquiring young pigs, calves and chicks. This year the population will sell 11 tons of meat, 100 tons of milk and 40 quintals of wool. Many such examples could be cited. During 3 years of the Tenth Five-Year Plan, in addition to the products sold by the rural residents in a "disorganized" manner at the market, the population purchased more than 5,000 tons of meat, in excess of 60,000 tons of milk, 273,000 tons of potatoes, 11,000 tons of vegetables and 412 tons of honey.

At the present time the local organs, kolkhozes and sovkhozes are furnishing organized assistance to the rural population: in procuring feed, acquiring young stock and in providing the specialists with skilled advice. However, many problems still persist in connection with the development of the private subsidiary farms. The people in the rural areas are for the most part employed: teachers, doctors, livestock breeders, machine operators. Moreover, there are many elderly persons and pensioners among them. Although the garden beds are small and the workload for maintaining a cow, 2-3 sheep or a hog are not very great, nevertheless there are many concerns and a certain amount of effort must be expended -- watering, weeding, feeding. All types of equipment are available at the kolkhozes and sovkhozes: combines, tractors, motor vehicles, conveyors and milking units and instruments are available for the domestic economy -- shovels, pails, choppers. The milkmaids run home from the farm and the machine operators who operated combines or tractors all day long arrive home and immediately must draw water from a nearby stream or well and set to work using a pitchfork or hoe. The elderly people are incapable of carrying out this work and the younger ones have fallen out of the habit of using such implements: they are more accustomed to operating controls, steering wheels and the buttons of various units. Thus the private gardens are empty, with the busy people being unable to cope with their plots. They prefer to manage on the basis of their wages, since the benefits they enjoy on the kolkhozes and sovkhozes are rather high. But assistance should be given to the people and their concerns decreased in magnitude -- and they will willingly plant potatoes, cabbage, tomatoes and cucumbers and raise livestock and poultry.

There is no denying that we are still encountering incidents involving a heartless and indifferent attitude being displayed towards development of the subsidiary farms. In those areas where this problem was corrected some time ago, the work is proceeding in a quite different and gratifying manner.

In the settlement of the Kazan' Broiler Factory, the people lived on the basis of a store, with meat being ordered from the factory: city comforts were built into the homes and no provision was made for outbuildings. Subsequently the management made a facility available at the factory, an association of amateur livestock breeders was organized and the dues collected were used for purchasing 10 sows. At the present time, the workers are raising their initial 150 hogs and also 20,000 chicks acquired at the factory. This year the workers will satisfy their own meat requirements and also sell 70 tons of it on the side. Prior to the above actions being undertaken, they were merely consumers.

The specialists and designers should have given more thought to the attachments, instruments and mechanisms used on small farms and industry -- to organizing the production of suitable watering cans and small but sufficiently productive instruments.

Although the gardens of private plots are small, nevertheless when properly tended they can provide the workers and our economy with great benefits.

## ADEQUATE MOISTURE RESERVES IN LATVIAN TOP SOIL

Riga SOVETSKAYA LATVIYA in Russian 16 Oct 79 p 3

[Report by L. Borisovskaya: "The Weather and the Sowings"]

[Text] The weather was cool and dry in the first 10 days of October. For the greater part of the 10 days the average daily air temperature fluctuated between 3 and 5 degrees, which was 2.5-4 degrees lower than usual. A drop to minus 4 degrees was recorded at night. The maximum temperature did not rise above 9-10 degrees.

There was precipitation on the first 5 days in the form of rain, and rain mixed with snow and hail was observed in places on certain days. In the majority of Latvia's rayons total precipitation was 1-7 millimeters to 10-20 percent of the norm, and 10-12 millimeters in certain central and northeast rayons, which was in the range of one-half of the norm.

The top soil was in good moistened condition everywhere.

In recent days the weather in the republic has been determined by an anti-cyclone spreading over the south of the Ukraine, and for this reason it has been warm, sunny and dry. The daytime air temperature has risen to 14-15 degrees and more.

The growth and development of the winter crops proceeded slowly under the conditions of the cool weather. The vegetation was again active with the rise in temperature. The late-sown (last 10 days of September) winter rye and wheat have sprouted. The winter crops have thickened out in many rayons. The height of the plants is 10-12 centimeters with a thickness of 300-550 per square meter.

The sown areas are well supplied with moisture. The productive moisture reserves in the top soil are 50-55 millimeters in the western rayons and 30-45 millimeters in the eastern rayons (the norm being 35-45 millimeters). It is necessary to make haste to take advantage of the recent fine days for the remaining field work. Next week will bring cold and rain.

8850

CSO: 1824

## PREPARATIONS FOR COMBATING CARABID BEETLES IN MOLDAVIA

Kishinev SOVETSKAYA MOLDAVIYA in Russian 28 Sep 79 p 3

[Moldavian SSR Ministry of Agriculture Main Administration for Plant Protection report: "The Wheat Needs Help"]

[Text] The high activeness of the carabid beetle has been noted on farms of Slobodzeyskiy, Kaushanskiy, Vulkaneshtskiy and a number of other southern rayons in the winter-crop fields. Each square meter of the second and third winter-crop sowings contains 12-20 eggs and larvae of first growth on the sections which have been cleared of cereal crops. These pests will cause particularly great damage in October to the winter crops on the irrigable sectors and also on those tracts where they have been sown after a stubble predecessor.

The flight of fall-generation chloropid and aphids and their concentration around the edges of the fields have been noted everywhere. The intensive chloropid and aphid population of the sown areas is noted on the early-sown winter-crop fields.

For the purpose of protecting the shoots from these pests it is the duty of specialists of the rayon plant-protection centers and the kolkhozes and sovkhozes to immediately conduct a survey of the sown areas and elicit the tracts populated by the pests. It is essentially to specially monitor the winter crops that have followed a stubble predecessor and also the places where straw is stacked and the weedy sectors. The sown areas on which larvae of the carabid beetle, chloropid and aphids are discovered must be treated with 12-percent hexachlorancyclohexane dust at the rate of 20 kilograms per hectare, 16-percent hexachlorancyclohexane gamma isomer emulsion at the rate of 2-2.5 kilograms per hectare or 20-percent methyl parathion emulsion at the rate of 1.5-2 kilograms per hectare.

Systematic observations of the growth and development of the winter crops and, where necessary, the adoption of urgent measures for their protection against pests and disease should be undertaken from September through November.

8850

CSO: 1824

## FIGHTING THE SOYBEAN MOTH IN AMURSKAYA OBLAST

Moscow ZERNOVOYE KHOZYAYSTVO in Russian No 10, Oct 79 pp 37-38

[Article by N. I. Serebrennikova, candidate of agricultural sciences, of the All-Russian Soybean Scientific Research Institute: "Preventing Losses From the Moth"]

[Text] The soybean moth was noted as a dangerous pest in Amurskaya Oblast at the start of the 1960's. In 1976 this pest had spread over an area covering 120,000 hectares. The maximum concentrations of it were noticed in Tambovskiy, Konstantinovskiy and Mikhaylovskiy rayons. On certain farms (the "Partizan" Sovkhoz, the "Vernyy put" Kolkhoz and others) the kernel damage constituted over 30 percent.

The moth feeds on the soybean seeds. As a result of the damage the composition of 1,000 seeds is reduced by more than 30 percent. The harmfulness of the soybean moth is directly dependent on the total percentage of beans it has damaged and on the extent to which their kernels have been damaged. In a test a composition of 1,000 seeds not damaged by the moth constituted 170 grams, with damage done to up to 5 percent of the seed lobes it weighed 140 grams, up to 25 percent 126 grams, up to 50 percent 124 grams and over 50 percent 110 grams.

As a consequence of the damage to the seeds there is a reduction in their germinating capacity. Thus upon the repeated germination in vessel pots of damaged seeds only one-fourth of them yielded healthy plantules. As a rule, the lowest germinating capacity (14-16 percent) was observed in seeds with a damaged embryo.

To organize an effective struggle against the soybean moth it is necessary to know its biological peculiarities. Until recently it was the opinion that the soybean moth was a specialized pest, but the observations of V. N. Lyubarskaya (1964) and our own enable us to also put lespedezas in the category of fodder plants, besides cultivated and wild soybean, chosen by the

soybean moth. This fact should be taken into consideration in forecasting the concentration of the pest and the organization of measures for fighting it.

The soybean moth winters in the caterpillar phase, having completed its nourishment and being in a diapause state, more often in a chrysalis, more rarely without in the soil to a depth of 6 centimeters. The summer reactivation of the caterpillars, which lasts approximately 3 weeks, which makes for the lengthiness of the period of the imago's pupation and flight, begins when the average daily soil temperature goes above 20 degrees.

Under natural conditions the flight of butterflies is noted during the mass flowering of the soybean (the last 10 days of July). It is very convenient to use this phenological observation to determine the start of the flight of the moth. The butterflies begin to lay eggs a few days after their first flight. At this time they are in need of additional nourishment, which they obtain from the flowering plants of baby carrots, soybean and others. According to our data, the egg-laying period lasts for over 30 days. Mass egg laying occurs from the middle to the end of August. Butterflies lay their eggs singly on the glume of the bean, most often along their sutures. After a few hours the spawned caterpillars penetrate the bean. At first the caterpillar feeds on the membranous cover of the bean from within and then switches to the kernel. It eats out the tissue around the edge of the seed lobe and often infringes on the embryo also. The place where the seed adheres to the bean is not damaged, which insures a constant influx of nutrients. The caterpillar in the bean feeds on the seeds for approximately 1 month. With the late-ripening and early-ripening varieties they leave the beans at the start of their ripeness, as a rule.

The numerous analyses of the beans which we made over the course of 2 years failed to reveal varieties of soybean which had not been damaged by the moth. The duration of the vegetative period of different varieties should be of interest, in our view, from the viewpoint of soybean's resistance to pests. However, we have not yet noticed any difference in the damage done to the early-ripening and late-ripening varieties. Amurskaya 485, Amurskaya 500 and Yantarnaya and Amurskaya 480 have proved relatively resistant varieties.

The period of the life of the pest connected with the soil covers almost 11 months. In this connection in the system of measures against the moth a main role is assigned fall plowing to the full depth of the top soil, which destroys a considerable proportion of the caterpillars which have withdrawn into the soil and disrupts the normal conditions of their wintering.

The observance of crop rotation is of great importance in reducing the moth contamination of the soybean fields. For example, 400 hectares of soybean were sown after soybean on Konstantinovskiy Rayon's "Rodina" Kolkhoz. The extent of the moth's damage of the grain in this field amounted to 80 percent. It is no less important to keep the sown areas free of weeds.

The chemical struggle against the soybean moth is attended by great difficulties as a consequence of the caterpillars' hidden feeding inside the beans and the lengthy period of its harmful activity. Furthermore, because of the comparatively brief insecticide action of the preparations it is necessary to resort to repeat treatments. Despite this, the application of insecticides against the moth is the main condition of an increase in the seed productiveness of soybean. [Volaton] and [Bazudin] were the most effective of the preparations tested (see below).

Test variant	Expenditure of preparation (kg/hectare)	Extent of damage to beans in period of soybean harvesting (%)	Reduction in extent of damage to beans (% of blank test)
Blank test	--	8.5	--
Trichlorfon, 80 % [tekhn.]	2.0	8.0	90.5
[Bazudin] 60 % [e.k.]	1.5	0.05	99.3
[Volaton] 50 % [e.k.]	1.0	0.10	98.8
[Rogor] 50 % [e.k.]	1.5	0.60	91.1

A determining condition of the effectiveness of insecticides is the correct choice of period for performing the work. The start of the mass egg laying in mid-August serves as the signal for the first treatment of the sown areas populated by the pest. The second treatment is carried out 7-10 days later.

During a survey of the sown areas on Konstantinovskiy Rayon's "Rossiya," "Vpered k kommunizmu" and "Vernyy put'" kolkhozes and also on the experimental model farm of the All-Union Soybean Scientific Research Institute it was established that the soybean moth predominantly populates the edges of the fields. The unequal nature of the distribution of the pest in the field permits us to switch from massive to edge treatments in a 50-60-meter strip.

COPYRIGHT: Izdatel'stvo "Kolos", "Zernovoye Khozyaystvo", 1979

8850  
CSO: 1824

## SUNFLOWER SEED HARVESTING

Kiev PRAVDA UKRAINY in Russian 4 Oct 79 p 2

[Article by A. G. Denisenko, UkrSSR deputy minister of Agriculture: "The Harvesting of Sunflower Seeds Is in Progress"]

[Text] Sunflower seed harvesting is in progress at the republic's farms. Over 1.6 million hectares have been allotted for this valuable crop. To fit into the optimum harvest periods means to protect the crop yield from losses and to give the enterprises high-quality raw material for the production of vegetable oil. At the request of our correspondent, A. G. Denisenko, UkrSSR deputy minister of Agriculture, tells about how this problem is being solved at the republic's farms.

Our republic occupies a key place in the country with respect to the production of vegetable oil. It is no secret to anyone, however, that oil seed cultivation in our country is increasing at rates that are still inadequate. Many kolkhozes and sovkhozes have had an underproduction by 25-30 percent of the plan during the three years of the 10th Five-Year Plan. At the same time, farms in Krymskaya and Khersonskaya oblasts are not indebted and are successfully coping with the assignments. Particularly large potentials were revealed last year due to the businesslike cooperation of farms and oil and fat combines, using the example of the Yampol' workers. The combined struggle for a high final result was crowned with success--the leading farms in Odesskaya, Zaporzhskaya and other oblasts took a ton of oil each from each hectare.

This year, according to preliminary estimates, this indicator will be achieved by considerably more kolkhozes and sovkhozes. For farms in Saratskiy Rayon in Odesskaya Oblast--the initiators of the 1978 competition to obtain a ton of oil from each hectare of plantings--this result is already becoming the norm. They confirmed the title of best masters in the growing of sunflowers this year. At all the sunflower fields, the Saratskiy workers--the first ones in the oblast!--have already completed

the harvesting. Up to 25 quintals of seeds were taken from each hectare--precisely the amount of raw material needed to obtain a ton of oil.

As is known, the weather conditions are not ideal. While, for example, last year the sunflowers suffered from excess moisture, this year--conversely--there was almost no rain from April to July. All the same, where the soil was actively prepared, the dry period did not affect the development of the plants and the harvest yield on the whole, so that it is to no avail that some farm managers are trying to justify in every possible way their agro-technical mistakes because of the poor weather.

The republic's kolkhozes and sovkhozes began the sunflower harvesting with confidence and good organization. Over 5,000 harvesting-transport detachments provided with all the necessary equipment are working at the sunflower fields.

One of the main concerns is that of product quality. Therefore, the farms, receiving centers and oil-fat combines have set up quality control stations, sending their own representatives to them. Receiving the seeds in consideration of their oil content and the corresponding coordination of payment is in progress in accordance with an experimental procedure at some procurement combines.

This year's harvest has its own essential characteristics. For example, many plants today have slender stems and break under the weight of the baskets and end up on the ground. This means that one cannot dispense with manual reaping. After all, in harvesting these sunflowers, the combines leave up to 5-6 quintals of seeds per hectare. The height of the plants also varies--many are short. Where this was taken into consideration in advance, no difficulties arise in the harvesting.

The machine operators have an arsenal of various efficiency devices. For example, at farms in Verkhnedneprovskiy Rayon in Dnepropetrovskaya Oblast, many combine operators have removed the PUM-5 pulverizer, with which the grain combines for sunflower harvesting are equipped, and the drums, and have installed sliding boards. As a result, the baskets are better pulverized. Another innovation also merits attention: instead of a reel and a deflector, a worm feeder is mounted on the stock combine, on which plates are welded in six rows from the conveyor of the slanted compartment. This reduces the seed loss to a minimum.

For the first time there is widespread testing of the PSP-1.5 attachment, plant-manufactured, designed by Bulgarian and Soviet machine builders. It is suspended from the Niva SK-4A and SK-5 combines, and makes it possible to harvest completely the entire biological yield of the sunflower and to supplement the fodder reserves considerably. Manufacture of granulated fodders made from stems and baskets has been well set up at farms in Voroshilovgradskaya Oblast.

Postharvesting processing of the seeds, and particularly their drying, deserves particular attention. At many farms the seeds arrive at the threshing floor from the combines with increased moisture content--up to 30 and even 40 percent. In order to protect them from spoiling and spontaneous heating, in Donetskaya Oblast, for example, over 400 grain-cleaning complexes and portable and nonportable dryers were included in the work. Over 200 AVM-type units are being actively used for this purpose. In order to accelerate the drying process, the work of the equipment has been organized into two shifts in Dnepropetrovskaya Oblast.

In conclusion, attention must be directed toward preparing next year's harvest for cultivation. Right now the main task is to sort out and pack up for storage high-quality seed material. After all, one of the reasons for the low harvests of sunflowers at farms in Cherkasskaya, Vinnitskaya, Khar'kovskaya and other oblasts is the poor quality of seeds from their own production. The seed stock here is as a rule supplemented from state resources. Some farms sow seeds with lower germinating capacity, and even substandard seeds.

By using the experience of the leading farms, today, at high rates and without losses the crops cultivated must be harvested and a reliable basis laid for high yields of sunflowers in the final year of the five-year plan.

12151

CSO: 1824

## BRIEFS

SUNFLOWER PRODUCTION INCREASED--Odessa--The workers of the Odessa Oil and Fat Combine have started on the processing of the new harvest of sunflowers. Powerful units able to turn out over 700 tons of vegetable oil daily are included here. Sunflower plantings take up about 200,000 hectares in the oblast. For the first time all the harvesting-transport detachments joined, following the example of the Yampol' workers, in the competition for the maximum final result--obtaining a ton of high-quality oil from each hectare of plantings. The farms in Saratskiy Rayon are setting an example. Some 22 quintals of seeds are being yielded from each hectare here. The combine's collective has made good preparations to receive the seeds from the new harvest, and has introduced a number of innovations directed toward preserving the seeds, improving the quality of the oil and reducing losses. A powerful unit has been installed for active aeration of the sunflowers, industrial lines have been modernized and additional equipment has been installed. The partners in the competition have committed themselves to producing 102,000 tons of sunflower seed oil this year--considerably more than last year. [Excerpts] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 13 Sep 79 p 1] 12151

SUNFLOWER HARVEST--Kishinev--Moldavia's farmers are pleased with the results of the sunflower harvesting that has been completed. The yield from each of the 170,000 hectares was over 20 quintals of oil seeds. The experiment made by the machine operators of Chadyr-Lungskiy Rayon was crowned with success. Introduced here for the first time was an industrial process for cultivating the sunflowers in which the use of herbicides completely eliminates inter-row cultivation of the soil. On an area of 2,500 hectares, 27.5 quintals of oil seeds on the average were obtained. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 6 Oct 79 p 1] 12151

YAMPOL' SUNFLOWER PRODUCTION EXAMPLE--The collective of the Bendery Oil Extraction Plant imeni 50-Letiya SSSR has begun the season. In the first 10 days of September the plant elevator has already received about 6,000 tons of sunflower seeds from the new harvest. Over 1,000 tons of oil has already been obtained--this is more than specified by the assignment. The efficient, continuous work of the conveyor, "field--plant," is furthered by

the businesslike cooperation of the enterprise's collective with the workers in the fields. The second year, using the example of the Yampol' workers, the farmers of Kaushanskiy and Slobodzeyskiy rayons and the plant workers are adopting reciprocal socialist obligations for the cultivation, harvesting and processing of sunflowers. This year's obligations specify obtaining 950 kilograms of sunflower oil per hectare of plantings. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 21 Sep 79 p 1] 12151

ANTICYCLONE OVER MOSCOW--For several days now the weather has been unusually warm in Moscow for October. The daytime temperature yesterday was 18 degrees. The warm weather is due to an anticyclone from Africa, which moved initially from the Balkans and the Mediterranean and has now reached the European part of the USSR. It is particularly warm now in Belorussia, the Baltic and the Central-Chernozem region. The last time such a temperature--19 degrees-- was recorded in Moscow on 12 October was in 1942. [Moscow TRUD in Russian 13 Oct 79 p 4] 8850

CSO: 1824

END

**END OF**

**FICHE**

**DATE FILMED**

10 DEC 79  
WB